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MICE Tracker Update

Tracker test at KEK

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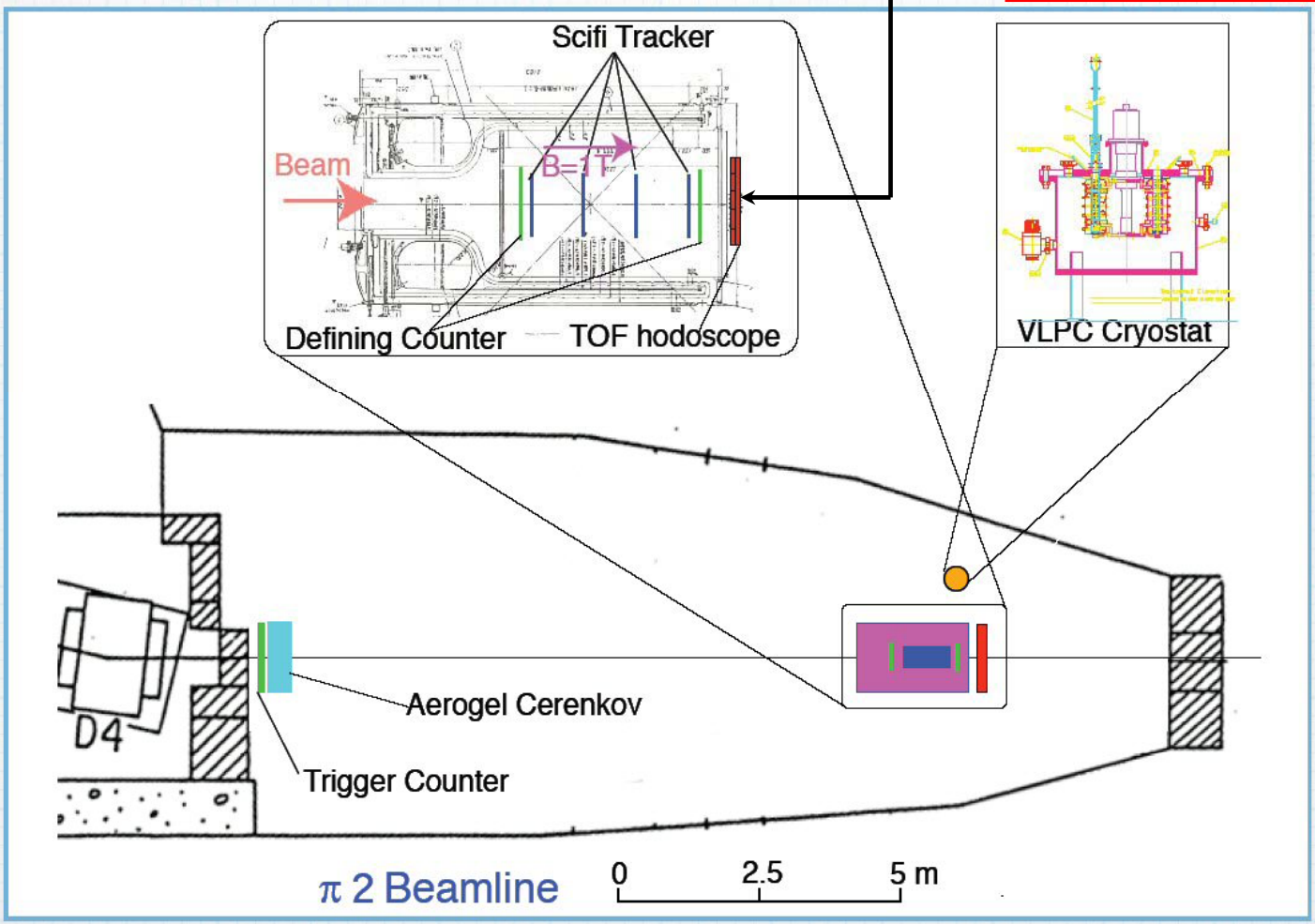
Overview

- We are setup to test the 4 station tracker prototype in the KEK π2 beam line
- The Ingredients of the Test represent a reasonable approximation to MICE Phase I. They include:
  - 4 station tracker
  - VLPC readout system
    - 2 VLPC cassettes (2048 ch)
    - Cryostat with cryo-cooler
    - Readout electronics
    - VME/Linux based DAQ
  - TOF
  - Cerenkov
  - Beam Counters

KEK π2 Beam Line

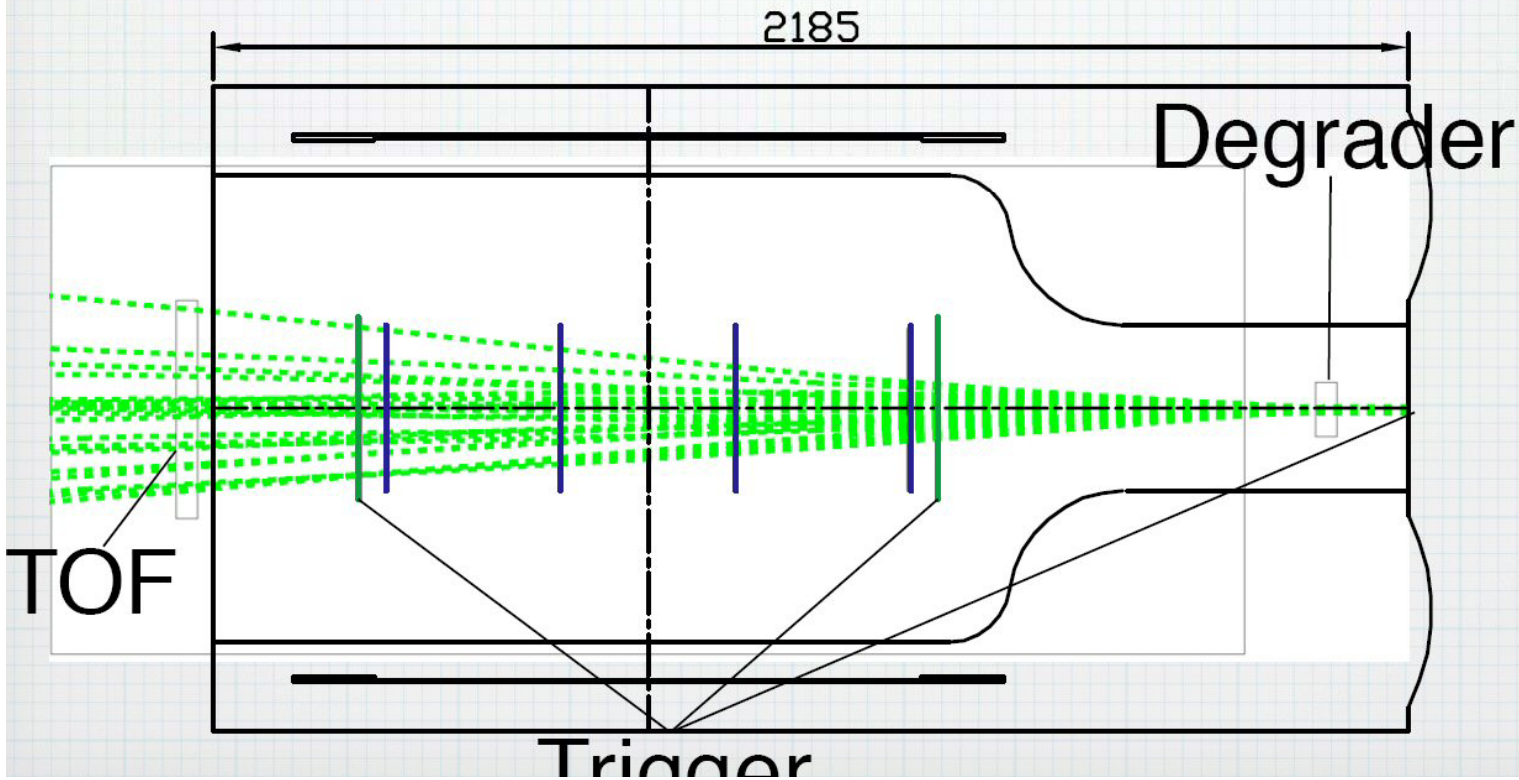


Emittance Measurment

Phase 2
w/ large emittance

Will attempt to get data of this type during the current run

* Study of emittance measurement



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Tracker

- Naked 4 Station prototype

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Test Status

- Currently all components are installed in the line
- VLPC System is in place and cold
- AFE II boards are installed and all 4 have been tested successfully
- Calibrating Beam Counter, TOF, and Cerenkov PMTs
- Bess Magnetic is cold and has been energized
  - Fringe field map has been made
  - One problem discovered – Turbo pump for VLPC cryostat had to be moved – FF too high.
- Calibrating VLPCs
- Testing DAQ/Readout
- Setting up trigger timing

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Slide Show

Tracker installed in Bess Magnet. AL plate holds the upstream beam defining counter

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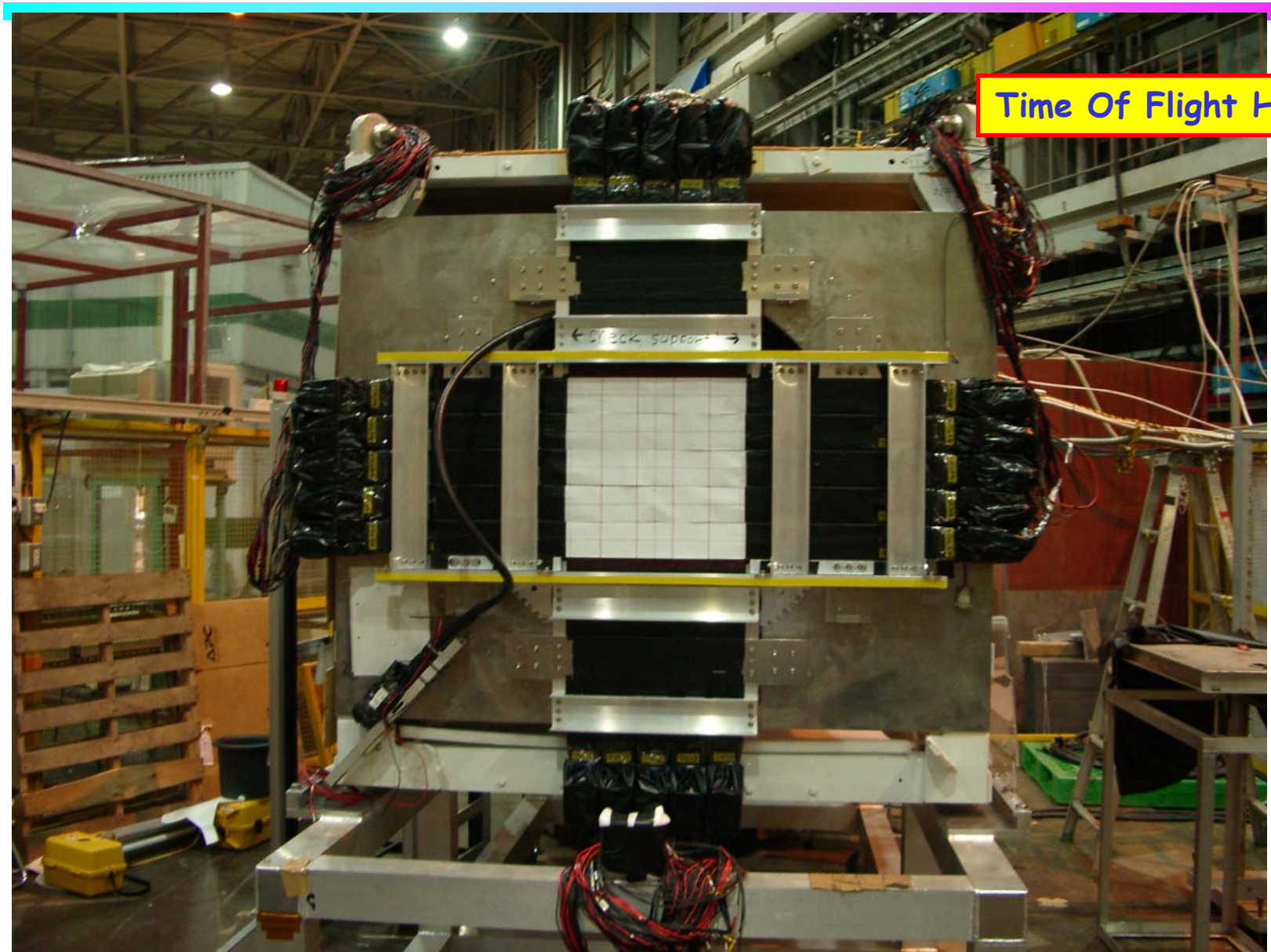

Time Of Flight Hodoscope

Waveguides emerging from back of tracker

Waveguides emerging from magnet snout.

fact
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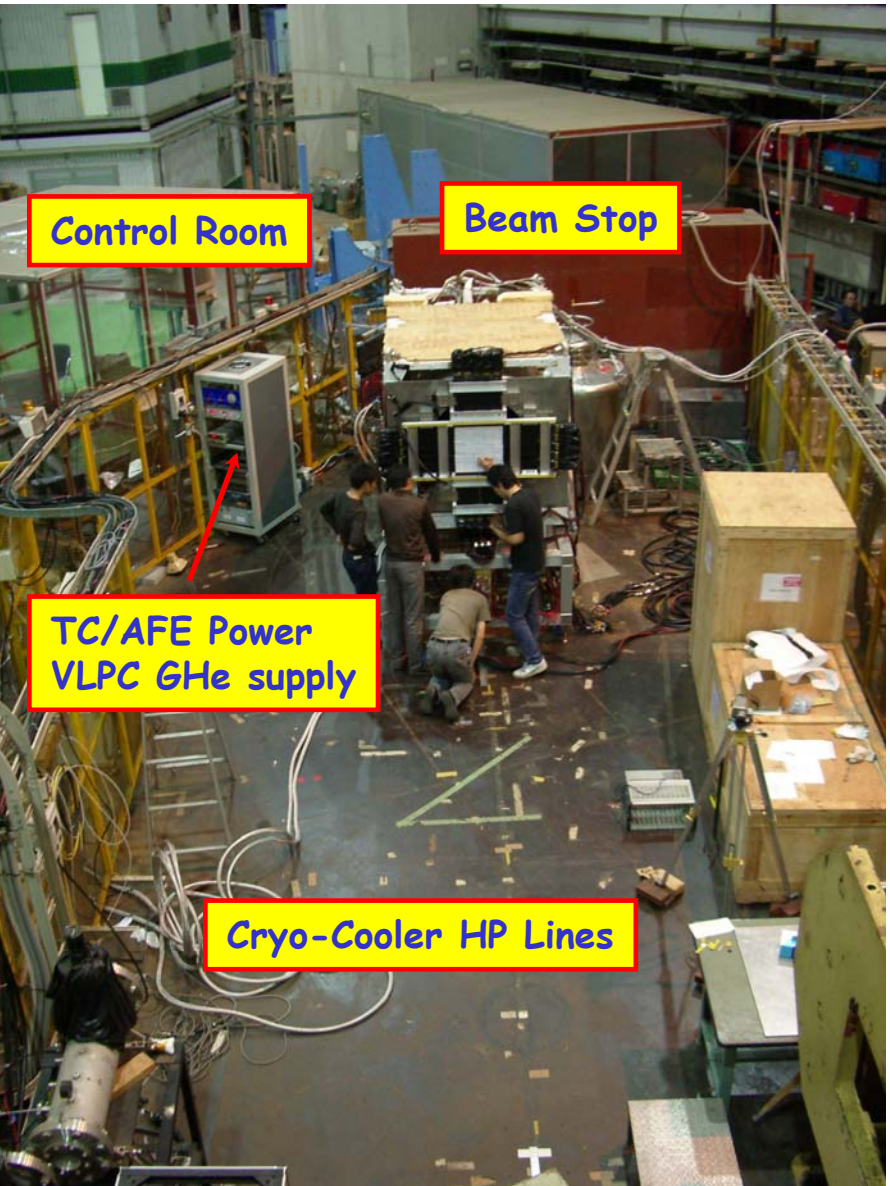
VLPC System in place and ready to go. The waveguides have not yet been attached to the cassettes. An LED calibration is being done.

Overall Experiment Layout



- Run Plan
  - B=0 Straight on
  - 15° B=0
  - 15° B on (1 T)
  - Rotate 180°
  - Install 150 mm Defining Counter
  - Install diffuser (20 mm Pb)
  - Run straight-on with B=0
  - Run with B on
- 20 Shifts available

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Don't Ask